

CLAIMS

1. Dry operated inlet end-box for mercury cathode chlor-alkali cell comprising a brine feed conduit, a slit for the admission of recycled mercury and at least one internal device for the heat exchange between said brine feed and said recycled mercury.
2. The end-box of claim 1 further comprising a baffle for the formation of a mobile film of mercury of predetermined thickness.
3. The end-box of claim 1 or 2 wherein said at least one internal device comprises a first element for the dispersion of said recycled mercury.
4. The end-box of claim 3 wherein said at least one internal device comprises a second element for raising the level of said brine feed.
5. The end-box of any one of the previous claims wherein said thermal exchange internal device is formed by elements made of or lined with a material chemically resistant in the operating conditions of a chlor-alkali cell, optionally selected from the group comprising titanium and alloys thereof, perfluorinated plastic materials, polycyclopentadiene, polyvinylidenefluoride, polychlorotrifluoroethylene.
6. The end-box of any one of claims 3 to 5 wherein said first element for the dispersion of mercury consists of a horizontal cylindrical distributor provided with perforations along the lower generatrix.
7. The end-box of claim 4 or 5 wherein said first element for the dispersion of mercury consists of a horizontal tray provided with lifted edge.
8. The end-box of claim 7 wherein said lifted edge is provided with at least one multiplicity of upper openings.
9. The end-box of claim 8 wherein said upper openings have a passage section of triangular shape.
10. The end-box of claim 8 wherein said edge is provided with a double multiplicity of respectively upper and lower openings, optionally having a triangular passage section.
11. The end-box of any one of claims 3 to 10 wherein said first element for the dispersion of mercury is connected to a wall of said end-box and said slit is sealed.

12. The end-box of any one of claims 3 to 10 wherein said first element for the dispersion of mercury is connected to a coaxial pipe internal to the brine feed conduit and said slit is sealed.
13. The end-box of any one of claims 3 to 10 wherein said first element for the dispersion of mercury is connected to a pipe coupled to said slit.
14. The end-box of any one of claims 4 to 13 wherein said second element for raising the brine level is a case provided with an overflow.
15. The end-box of claim 14 wherein said case is provided with a damper of the falling brine which pours out above said overflow.
16. The end-box of any one of claims 4 to 15 wherein said second element for raising the level is connected to the brine feed conduit.
17. The end-box of any one of claims 4 to 16 wherein said first element for the dispersion of mercury is inserted inside said second element for raising the level.
18. The end-box of claim 17 wherein said first element for the dispersion of mercury is placed below the brine level in said second element.
19. The end-box of claim 14 or 15 wherein the said case for raising the level is provided with one or more ducts for the discharge of mercury containing a level of mercury in the interior.
20. The end-box of claim 19 wherein said one or more ducts are made of or lined with electrically non conductive and chemically inert material.
21. The end-box of any one of the previous claims characterised by being made of metallic material provided with an ebonite or rubber coating, or of non metallic material.
22. The end-box of any one of the previous claims wherein said internal device for the heat exchange is electrically insulated from the chlor-alkali cell.
23. Mercury cathode chlor-alkali electrolysis cell comprising the inlet end-box of any one of the previous claims.
24. Process of electrolysis of brine for the production of chlorine and caustic soda or potash, comprising the use of the cell of claim 23.
25. The process of claim 24 wherein the thermal longitudinal distribution in the cell is uniform.

26. Inlet end-box for mercury cathode chlor-alkali cell substantially as described with reference to the attached figures.